

# **U.S. Army Center for Health Promotion and Preventive Medicine**

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## **A SOLDIER'S GUIDE TO STAYING HEALTHY IN SOUTHWEST ASIA**

SHG 003-1203



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## A SOLDIER'S GUIDE TO STAYING HEALTHY IN SOUTHWEST ASIA

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### INTRODUCTION

This country-specific guide should be used in conjunction with [GTA 08-05-062, \*Guide to Staying Healthy\*](#), and is intended to provide information that can help reduce your risk of Disease and Non-Battle Injuries (DNBI) when deployed. This health threat and countermeasure information is based on the most current data available from U.S. Department of Defense medical agencies at the time of production. In addition to the information in this guide, you should also receive force health protection, health threat, and preventive medicine countermeasures training/briefings prior to and, as required, throughout the length of your deployment.

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## SOUTHWEST ASIA OVERVIEW

Southwest Asia includes the countries of [Iran](#), [Iraq](#), [Israel](#), [Jordan](#), [Kuwait](#), [Lebanon](#), [Oman](#), [Qatar](#), [Saudi Arabia](#), [Syria](#), [United Arab Emirates](#) (UAE) and [Yemen](#). This region has flat, barren desert and rugged mountainous areas. The borders of the region include Turkey and the Caspian Sea in the north; Afghanistan and Pakistan in the east; the Persian Gulf and Arabian Seas in the south; and the Mediterranean and Red Seas in the west. The elevation ranges from sea level along the coastal areas to 12,000 feet in the Zagros Mountains in Iran. The arid subtropical climate is one of the hottest in the world. The climate is hot and humid along the coast and hot and dry in the interior. Snow is possible in the northern mountain regions of Iran and Iraq and the eastern mountains of Lebanon. Flooding occurs in central and southern Iraq due to melting snows in the early spring. The climate generally has two distinct seasons: hot summer with temperatures between 53° F and 118° F and winter with temperatures between 30° F and 103° F. Temperatures can reach 130° F in the deserts of Oman and Yemen. Summer winds often create large sandstorms and dust storms that can last for several days at a time. The region is also prone to periodic droughts. Monsoon season occurs from May to September in the mountainous regions of western Yemen and southern Oman.

## SOUTHWEST ASIA RISK ASSESSMENT

Based on a combination of all major infectious diseases that occur in a country, an [overall country risk level](#) is assigned from low to highest risk. Iraq and Yemen are HIGH RISK; Iran, Israel, Jordan, Lebanon, Oman, Qatar, Saudi Arabia, Syria, and UAE are INTERMEDIATE RISK; and Kuwait is LOW RISK for infectious diseases. Without force health protection measures, mission effectiveness will be seriously jeopardized. Also, environmental contamination may present short- and long-term health risks to personnel deployed to Southwest Asia.

This guide discusses specific disease and environmental risks and ways to eliminate or lessen those risks.

## DISEASES OF GREATEST RISK

The diseases that pose the greatest risk are—

[Diarrhea \(bacterial\)](#). Bacterial diarrhea is a mild but uncomfortable disease caused by drinking water or eating food that contains bacteria. If you consume local food or water in Southwest Asia, diarrhea will almost always occur.

[Hepatitis A](#). Hepatitis A is a serious debilitating liver disease caused by eating food or drinking water that contains the hepatitis A virus. It can also be caused by not washing your hands after you go to the bathroom.

[Typhoid/paratyphoid fever](#). Typhoid fever is a life-threatening illness caused by bacteria found in food and water. People can have typhoid and not have symptoms.

[Leishmaniasis](#) (LEASH-ma-NIGH-a-sis). Leishmaniasis is a disease carried by sand flies. The most common form in Southwest Asia is cutaneous leishmaniasis. It causes sores that will not heal, often on exposed parts of your body. A less common, but more severe, form is visceral leishmaniasis. It affects the internal organs (e.g., spleen, liver, bone marrow) resulting in fever, weight loss, and weakness. The symptoms of both forms of leishmaniasis may not occur for weeks or months after you have been bitten by the sand fly.

[Malaria](#). Malaria is a very serious disease transmitted through the bite of a mosquito that carries the malaria protozoa. Soldiers who contract malaria usually are in the hospital for 1-7 days. Severe cases may require intensive care or a very long recovery time. People can die from malaria.

Information about how to prevent these and other diseases can be found under each disease category.

## VECTOR-BORNE DISEASES

### DISEASE RISKS

A vector-borne disease is a disease carried by an insect. There are several vector-borne diseases other than leishmaniasis and malaria present throughout this region. These diseases are widespread but more common in coastal areas during warmer months, especially March through November. Vector-borne diseases that pose a risk include [Crimean-Congo hemorrhagic fever](#) from ticks, [dengue fever](#) (Saudi Arabia and Yemen) from mosquitoes, [plague](#) (Iraq and Yemen) from fleas, [Lyme disease](#) from ticks, [murine typhus](#) from fleas, Boutonneuse fever (spotted fever group [rickettsiosis](#)) from ticks, [Rift Valley fever](#) (Saudi Arabia and Yemen) from mosquitoes, [sand fly fever](#) from sand flies, [Sindbis \(Ockelbo\)](#) virus from mosquitoes, and [West Nile fever](#) from mosquitoes.

### PREVENTION

- There is medicine you must take to help prevent malaria. Take your malaria prevention pills when directed to do so. This is CRITICAL. Normally, you will begin taking medication before arriving in the area, while in the area, and after returning home.
- When deployed to this region, use the [DOD Insect Repellent System](#) detailed in [GTA 08-05-062](#) to reduce your risk of acquiring a vector-borne disease.
- Wear [permethrin](#)-treated uniforms with trousers tucked into boots, sleeves rolled down, and undershirt tucked into trousers. Apply Insect/Arthropod Repellent Lotion containing DEET (N,N-diethyl-meta-toluamide) to all exposed skin.
- When deployed to this region, [sleep under a permethrin-treated bed net](#) to repel insects and further reduce risks of vector-borne diseases.
- When using both DEET and sunscreen products, apply sunscreen to the skin first so it does not interfere with the effectiveness of the DEET. After 30 minutes to an hour, apply the DEET. This allows the sunscreen time to penetrate and bind to the skin first.

## FOOD-BORNE AND WATER-BORNE DISEASES

### DISEASE RISKS

Food-borne and water-borne diseases are caused by eating food or drinking water that contains the bacteria, parasites or viruses that cause certain diseases. Sanitation is poor throughout Southwest Asia, even in major urban areas. Local food and water sources (including ice) can be heavily contaminated with the bacteria, parasites, viruses, pesticides, and fertilizers that cause disease. Diarrheal diseases can be expected to affect a very large number of personnel within days if local food, water, or ice is consumed. In addition to bacterial diarrhea, hepatitis A and typhoid/paratyphoid fever, the food and water-borne diseases that pose a risk are [brucellosis](#), [cholera](#), [hepatitis E](#), and [protozoal diarrhea](#).

### PREVENTION

- Assume all non-approved food, ice, and water is contaminated. You should not drink local tap water, fountain drinks, or ice cubes. Do not eat any food or drink any water or a beverage (including bottled water) that has not been approved by the U.S. military as these may be contaminated. Even a one-time consumption of these foods or water may cause severe illness.
- There are vaccines for hepatitis A and typhoid fever. They are not 100 percent effective so you still should not consume unapproved food or water.
- See [GTA 08-05-062](#) for appropriate countermeasures.

## WATER-CONTACT AND SOIL-CONTACT DISEASES

### DISEASE RISKS

Water-contact diseases are contracted by swimming, wading, or other skin contact with contaminated water. Soil-contact diseases are contracted by coming into contact with soil or dust contaminated with certain diseases. Usually, you must breathe in the dust or soil that is infected. The water-contact and soil-contact diseases that pose a risk are [leptospirosis](#), [schistosomiasis](#) (high risk in Yemen, lower risk in other countries).

Skin irritations and infections, such as athlete's foot and ringworm, are also common medical threats during any deployment and are commonly caused by fungi that thrive in moist conditions.

### PREVENTION

- Do not swim or wade in water that has not been treated with chlorine.
- If you must be exposed to non-chlorinated water, wear protective clothing and footwear.
- Never go barefoot.
- Clean your skin and clothing after wading or swimming in freshwater ponds or streams.
- Try not to inhale dust or dirt that has been inhabited by rodents.
- To prevent skin infections, maintain clean, dry skin.
- See [GTA 08-05-062](#) for additional countermeasure information.

## ANIMAL-CONTACT DISEASES

### DISEASE RISKS

Diseases contracted through contact with animals that are of potential military significance include [rabies](#), [anthrax](#) and [Q fever](#). These animal-contact diseases are serious illnesses that you contract from being bitten by an infected animal (rabies), touching or eating infected animals (anthrax), or inhaling dust that contains the organisms that cause the disease (Q fever, anthrax). Cats, dogs, and bats are the main carriers of rabies, but any animal can be infected with rabies. Cattle, sheep and goats are the main carriers of anthrax and Q fever.

### PREVENTION

- Those deployed should see [GTA 08-05-062](#) for appropriate countermeasures.
- If bitten, seek medical attention immediately.
- Keep living quarters free of rodents, and stay clear of buildings infested with rodents.
- Always check dug-in fighting positions for potentially dangerous animals.
- Clean your skin and clothing after contact with animals or dust.

## CONTAGIOUS DISEASES

### RISKS

The contagious diseases are diseases that you catch from other people. These diseases can be sexually transmitted or respiratory (breathing) diseases. The sexually transmitted diseases ([STDs](#)) that pose a risk are [chlamydia](#), [gonorrhea](#), human immunodeficiency virus ([HIV/acquired immune deficiency syndrome \(AIDS\)](#)) and [hepatitis B](#). HIV/AIDS and hepatitis B are potentially fatal. They can also be passed by sharing needles. Though the immediate impact of HIV/AIDS and hepatitis B on an operation is limited, the long-term impact on your individual health is great. The respiratory diseases that pose a risk are [meningococcal meningitis](#) and [tuberculosis](#) (TB). Meningococcal meningitis is an extremely serious, often fatal, highly contagious bacterial disease that causes an inflammation of the lining of the brain. A person is at risk of contracting the disease when he or she comes into close contact with oral secretions of a person who is carrying the bacteria (for example, through a cough or kiss). Breathing in the bacteria that someone coughed or sneezed into the air spreads TB. Being exposed to the bacteria will cause a positive skin test even if you do not become sick. If you have a positive skin test, you may still be treated even if you have no symptoms.

### PREVENTION

- There is a vaccine against meningococcal meningitis, but it is not always effective. If there is an outbreak, stay away from sick people.
- There is a vaccine for hepatitis B but not for any other STD.
- **Anyone deployed to the region should not have unprotected sex and should not share needles.**
- Those deployed should see [GTA 08-05-062](#) for appropriate countermeasures.

## HAZARDOUS ANIMALS AND PLANTS

### RISKS

- Several species of highly poisonous snakes, which are well camouflaged and very aggressive, live in the region. Consider any snake encountered as poisonous, and do not handle.
- Several species of scorpions and spiders, some with potentially fatal venom, are present throughout the region.
- Coastal waters of the Persian Gulf contain hazardous marine animals including highly venomous sea snakes, poisonous jellyfish, and sea urchins with sharp or poisonous spines.
- Some regional plants have thorns, stinging hairs, or toxic resins that may puncture the skin or introduce poison into the skin causing skin irritation, rashes or infections. Avoid skin contact with plants when tactically feasible.
- Contact with the smoke from the burning of these plants can also cause skin rashes and damage to your lungs.
- Some regional plants may cause systemic poisoning if leaves, berries, flowers, or other plant parts are chewed or swallowed. Symptoms include dizziness, vomiting, irregular heartbeat, and delirium or hallucinations.

### PREVENTION

- Consider any snake encountered as poisonous, and do not handle.
- Seek immediate medical attention if bitten or stung by any animal or insect; untreated snakebites may cause serious illness or death within 1 hour.
- Unless tactically required, swimming and wading in natural waterways in Southwest Asia should be avoided. Swim only in approved swimming pools.
- If possible, avoid sleeping on the ground.
- Shake out boots, bedding, and clothing prior to use, and never walk barefoot.
- Avoid skin contact with plants when possible.
- Clean your clothing with soap and water after contact with animals or harmful plants.

## SAND, WIND, AND DUST

Severe sandstorms and dust storms are common throughout the region. Heat, sand, wind, and dust cause health problems, particularly to skin, eyes, nose, throat and lungs. Take care of problems early to avoid infection. High winds can turn loose objects into flying missiles (which may not be visible in blowing sand). To help avoid problems—

- Take a daily sponge bath, using an approved water source.
- Wash your face and eyelids several times per day.
- Carry at least two pairs of glasses and a copy of your prescription. Do not wear contact lenses; [AR 40-63](#) prohibits contact lens use during a military deployment.
- Carry artificial tear drops to use if you get something in your eyes or your eyes feel dry.
- Breathe through a wet face cloth, or coat the nostrils with a small amount of petroleum jelly to minimize drying of mucous membranes.
- Protect your lips with lip balm.
- Shield your eyes with goggles and your face with cloth materials to protect from



blowing dust and sand.

- Moisturize your hands with lotion, and then wear gloves to protect your hands.

## **HOT AND COLD WEATHER INJURIES**

Heat is the greatest overall medical threat when deployed to this region, especially during the early phase of deployment; acclimatization is critical. Individual and unit countermeasures are extremely important. Cold injuries can also occur in the coastal and mountainous areas of this region. The effects of cold weather are more severe in high mountainous areas due to reduced oxygen and lower air pressure. When deploying to the mountainous areas in this region, check with your unit on the requirement for packing the extended cold weather clothing system. See [GTA 08-05-062](#) for appropriate countermeasures.

## **TOXIC INDUSTRIAL CHEMICALS AND MATERIALS**

The greatest short-term environmental health risks to forces deployed to Southwest Asia are associated with consumption of water contaminated with raw sewage or runoff containing fecal pathogens, as well as risks from extreme heat, high altitude, and airborne dust and sand. The greatest long-term health risks are associated with air contamination in industrial and urban areas and from chemical contamination of food or water. When deployed, you may also face health risks from industrial chemicals and materials as a result of activities by terrorists or warring parties or from accidents related to improper design, maintenance, or operation of indigenous industrial facilities or improper handling or disposal of hazardous material with which our own forces deploy. The degree of health risk depends upon many factors. Consult your medical authority for additional information.

## **HIGH ELEVATIONS**

Military operations occurring at elevations over 6,000 feet can seriously affect unit and individual effectiveness due to lower levels of oxygen. Serious illness or death can result if you increase your elevation rapidly without allowing for acclimatization. Remain well hydrated; individual water requirements are greater at higher altitudes.

When deployed to high mountain areas, look for the common symptoms of mountain sickness: headache, nausea, vomiting, dizziness, fatigue, irritability, and coughing. Seek medical attention immediately if you experience any of these symptoms.

Pyridostigmine bromide tablets may increase the chance of dizziness or fainting during the first 24 hours at high altitude if you are not acclimatized.

When wearing mission-oriented protective posture (MOPP) gear at higher altitudes, you may require more time and concentration to perform assigned tasks.

For appropriate countermeasures during high altitude operations, see GTA 08-05-062 and GTA 08-05-060, *A Soldier's Guide to Staying Healthy at High Elevations*.



## HEARING PROTECTION

It is essential that you use properly fitted [hearing protection](#) during military operations. Exposure to high-intensity noise may cause hearing loss that can adversely affect your combat effectiveness and individual readiness. Good hearing is essential to mission success. If you are a dismounted soldier, the [Combat Arms Earplug](#) (NSN 6515-01-466-2710) will protect you from the impact noise of weapons fire while only slightly interfering with voice communications and detection of combat sounds such as vehicle noise, footfalls in leaves, and the closing of a rifle bolt. While not as effective as the Combat Arms Earplug in preserving your ability to hear important mission-related sounds, noise muffs or standard earplugs are very effective at preventing noise-induced injury. If you are a member of vehicle or helicopter crews, your combat vehicle crew or aircrew helmets have built-in hearing protectors.

## ORAL HEALTH

[Dental disease](#) is a common problem during deployments because it is not easy to take care of your mouth. You should deploy with toothbrush, dental floss, and fluoride toothpaste. You should brush your teeth twice a day and floss your teeth once a day. This is the best way to prevent gum disease, trench mouth and tooth decay. In difficult tactical environments, teeth should be brushed at least once a day. Seek medical attention immediately at the onset of any dental problems. You are more vulnerable to other diseases when your mouth is not healthy.

## FIELD SANITATION TEAM

Each company-sized unit has a Field Sanitation Team (FST) whose members are trained (40-hour course) and fully equipped according to [AR 40-5](#), [FM 4-25.12](#), and [FORSCOM REG 700-2](#). Know who the members of your FST are, and know how they can assist in preventing medical threats to your health. Become familiar with FST equipment and training.

## PRE-DEPLOYMENT HEALTH INFORMATION

- [Complete the Pre-Deployment Health Assessment \(DD FORM 2795\)](#) to assess your state of health before deployment and to assist health care providers in identifying your medical needs and providing present and future medical care to you.
- You will not have access to your health care record during the deployment. The Adult Preventive and Chronic Care Flowsheet ([DD FORM 2766](#)) will be used as your deployment health record. This document will include information on all your immunizations, any medications you are currently taking, and any ongoing medical problems that you may have. When you go through readiness processing, ensure that all appropriate information is documented on your DD FORM 2766. When you return home, this information will be placed in your regular health record.

## **INFORMATION ABOUT YOUR HEALTH CARE WHILE DEPLOYED**

- It is important that you know where to seek health care while deployed. This may or may not be through the same channels as your home station. Ask your chain of command for more information.
- While deployed, you must maintain your health and seek care whenever an illness or injury affects your work. Your unit is depending on you. It is always better to seek care early so your problems can be documented appropriately and taken care of immediately. When problems are caught early, they are usually easier to treat.

## **POST-DEPLOYMENT HEALTH INFORMATION**

- [Complete the Post-Deployment Health Assessment \(DD FORM 2796\)](#) to assess your health after deployment and to assist health care providers in identifying your medical needs and providing present and future medical care to you.
- If you become sick after you return home, tell your doctor that you were deployed.
- Complete antimalarial medications as directed, and receive follow-on medical care/tests as directed.

**Contact your Preventive Medicine or Medical Support Unit for more information.**



*Prepared by:*

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